

0570

04/11



#2

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,420

DATE: 04/19/2002

TIME: 16:05:07

Input Set : N:\Crf3\RULE60\10046420.raw

Output Set: N:\CRF3\04192002\J046420.raw

1 <110> APPLICANT: Voellmy, Richard
2 <120> TITLE OF INVENTION: MOLECULAR REGULATORY CIRCUITS TO ACHIEVE
3 SUSTAINED ACTIVATION OF GENES OF INTEREST BY A SINGLE STRESS
4 <130> FILE REFERENCE: 870109.409
5 <140> CURRENT APPLICATION NUMBER: 10/046,420
6 <141> CURRENT FILING DATE: 2002-04-19
9 <150> PRIOR APPLICATION NUMBER: US/09/304,121
10 <151> PRIOR FILING DATE: 1999-05-03
13 <160> NUMBER OF SEQ ID NOS: 3
14 <170> SOFTWARE: FastSEQ for Windows Version 3.0
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 2156
18 <212> TYPE: DNA
19 <213> ORGANISM: Homo sapien
20 <220> FEATURE:
21 <221> NAME/KEY: CDS
22 <222> LOCATION: (161)...(1747)
23 <400> SEQUENCE: 1
24 cgggcccggtt gcaagatggc ggcggccatg ctgggccccg gggctgtgtg tgcgcagcgg 60
25 gcggcgccgc ggcgggaag gctggcgcg cgacggcggtt agccggccc tcggccctc 120
26 tttgcggccg ctccctccgc ctattccctc cttgctcgag atg gat ctg ccc gtg 175
27 Met Asp Leu Pro Val
28 1 5
29 ggc ccc ggc gcg gcg ggg ccc agc aac gtc ccg gcc ttc ctg acc aag 223
30 Gly Pro Gly Ala Ala Gly Pro Ser Asn Val Pro Ala Phe Leu Thr Lys
31 10 15 20
32 ctg tgg acc ctc gtg agc gac ccg gac acc gac gcg ctc atc tgc tgg 271
33 Leu Trp Thr Leu Val Ser Asp Pro Asp Thr Asp Ala Leu Ile Cys Trp
34 25 30 35
35 agc ccg agc ggg aac agc ttc cac gtg ttc gac cag ggc cag ttt gcc 319
36 Ser Pro Ser Gly Asn Ser Phe His Val Phe Asp Gln Gly Gln Phe Ala
37 40 45 50
38 aag gag gtg ctg ccc aag tac ttc aag cac aac aac atg gcc agc ttc 367
39 Lys Glu Val Leu Pro Lys Tyr Phe Lys His Asn Asn Met Ala Ser Phe
40 55 60 65
41 gtg cgg cag ctc aac atg tat ggc ttc cgg aaa gtg gtc cac atc gag 415
42 Val Arg Gln Leu Asn Met Tyr Gly Phe Arg Lys Val Val His Ile Glu
43 70 75 80 85
44 cag ggc ggc ctg gtc aag cca gag aga gac gac acg gag ttc cag cac 463
45 Gln Gly Gly Leu Val Lys Pro Glu Arg Asp Asp Thr Glu Phe Gln His
46 90 95 100
47 cca tgc ttc ctg cgt ggc cag gag cag ctc ctt gag aac atc aag agg 511
48 Pro Cys Phe Leu Arg Gly Gln Glu Gln Leu Leu Glu Asn Ile Lys Arg

ENTERED

DATE: 04/19/2002

PATENT APPLICATION: US/10/046,420

TIME: 16:05:07

Input Set : N:\Crf3\RULE60\10046420.raw

Output Set: N:\CRF3\04192002\J046420.raw

[illegible]

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,420

DATE: 04/19/2002

TIME: 16:05:07

Input Set : N:\Crf3\RULE60\10046420.raw

Output Set: N:\CRF3\04192002\J046420.raw

```

98      ctc agc gta gcc tgc ctg gac aag aat gag ctc agt gac cac ttg gat      1327
99      Leu Ser Val Ala Cys Leu Asp Lys Asn Glu Leu Ser Asp His Leu Asp
100      375      380      385
101      gct atg gac tcc aac ctg gat aac ctg cag acc atg ctg agc agc cac      1375
102      Ala Met Asp Ser Asn Leu Asp Asn Leu Gln Thr Met Leu Ser Ser His
103      390      395      400      405
104      ggc ttc agc gtg gac acc agt gcc ctg ctg gac ctg ttc agc ccc tcg      1423
105      Gly Phe Ser Val Asp Thr Ser Ala Leu Leu Asp Leu Phe Ser Pro Ser
106      410      415      420
107      gtg acc gtg ccc gac atg agc ctg cct gac ctt gac agc agc ctg gcc      1471
108      Val Thr Val Pro Asp Met Ser Leu Pro Asp Leu Asp Ser Ser Leu Ala
109      425      430      435
110      agt atc caa gag ctc ctg tct ccc cag gag ccc ccc agg cct ccc gag      1519
111      Ser Ile Gln Glu Leu Leu Ser Pro Gln Glu Pro Pro Arg Pro Pro Glu
112      440      445      450
113      gca gag aac agc agc ccg gat tca ggg aag cag ctg gtg cac tac aca      1567
114      Ala Glu Asn Ser Ser Pro Asp Ser Gly Lys Gln Leu Val His Tyr Thr
115      455      460      465
116      gcg cag ccg ctg ttc ctg ctg gac ccc gcc tcc gtg gac acc ggg agc      1615
117      Ala Gln Pro Leu Phe Leu Leu Asp Pro Gly Ser Val Asp Thr Gly Ser
118      470      475      480      485
119      aac gac ctg ccg gtg ctg ttt gag ctg gga gag ggc tcc tac ttc tcc      1663
120      Asn Asp Leu Pro Val Leu Phe Glu Leu Gly Glu Gly Ser Tyr Phe Ser
121      490      495      500
122      gaa ggg gac ggc ttc gcc gag gac ccc acc atc tcc ctg ctg aca ggc      1711
123      Glu Gly Asp Gly Phe Ala Glu Asp Pro Thr Ile Ser Leu Leu Thr Gly
124      505      510      515
125      tcg gag cct ccc aaa gcc aag gac ccc act gtc tcc tagaggcccc      1757
126      Ser Glu Pro Pro Lys Ala Lys Asp Pro Thr Val Ser
127      520      525
128      ggaggagctg ggccagccgc ccacccccac cccagtgca gggctggtct tggggaggca      1817
129      gggcagcctc gcggtcttg gcaactggtg gtcggccgcc atagccccag taggacaaac      1877
130      gggctcggtg ctgggcagca cctctggtca ggagggtcac cctggcctgc cagtctgcct      1937
131      tcccccaacc ccgtgtcctg tggtttggtt ggggcttcac agccacacct ggactgaccc      1997
132      tgcaggttgt tcatagtcag aattgtattt tggattttta cacaactgtc ccgttccccg      2057
133      ctccacagag atacacagat atatacacac agtggatgga cggacaagac aggcagagat      2117
134      ctataaacag acaggctcta aaaaaaaaaa aaaaaaaaaa      2156
136 <210> SEQ ID NO: 2
137 <211> LENGTH: 529
138 <212> TYPE: PRT
139 <213> ORGANISM: Homo sapien
140 <400> SEQUENCE: 2
141      Met Asp Leu Pro Val Gly Pro Gly Ala Ala Gly Pro Ser Asn Val Pro
142      1      5      10      15
143      Ala Phe Leu Thr Lys Leu Trp Thr Leu Val Ser Asp Pro Asp Thr Asp
144      20      25      30
145      Ala Leu Ile Cys Trp Ser Pro Ser Gly Asn Ser Phe His Val Phe Asp
146      35      40      45
147      Gln Gly Gln Phe Ala Lys Glu Val Leu Pro Lys Tyr Phe Lys His Asn

```

TIME: 16:05:07

Output Set: N:\CRF3\04192002\J046420.raw

148	50					55					60					
149	Asn	Met	Ala	Ser	Phe	Val	Arg	Gln	Leu	Asn	Met	Tyr	Gly	Phe	Arg	Lys
150	65					70					75					80
151	Val	Val	His	Ile	Glu	Gln	Gly	Gly	Leu	Val	Lys	Pro	Glu	Arg	Asp	Asp
152					85					90					95	
153	Thr	Glu	Phe	Gln	His	Pro	Cys	Phe	Leu	Arg	Gly	Gln	Glu	Gln	Leu	Leu
154				100					105					110		
155	Glu	Asn	Ile	Lys	Arg	Lys	Val	Thr	Ser	Val	Ser	Thr	Leu	Lys	Ser	Glu
156			115					120					125			
157	Asp	Ile	Lys	Ile	Arg	Gln	Asp	Ser	Val	Thr	Lys	Leu	Leu	Thr	Asp	Val
158		130					135					140				
159	Gln	Leu	Met	Lys	Gly	Lys	Gln	Glu	Cys	Met	Asp	Ser	Lys	Leu	Leu	Ala
160	145					150					155					160
161	Met	Lys	His	Glu	Asn	Glu	Ala	Leu	Trp	Arg	Glu	Val	Ala	Ser	Leu	Arg
162					165						170				175	
163	Gln	Lys	His	Ala	Gln	Gln	Gln	Lys	Val	Val	Asn	Lys	Leu	Ile	Gln	Phe
164				180					185					190		
165	Leu	Ile	Ser	Leu	Val	Gln	Ser	Asn	Arg	Ile	Leu	Gly	Val	Lys	Arg	Lys
166			195					200					205			
167	Ile	Pro	Leu	Met	Leu	Asn	Asp	Ser	Gly	Ser	Ala	His	Ser	Met	Pro	Lys
168		210					215					220				
169	Tyr	Ser	Arg	Gln	Phe	Ser	Leu	Glu	His	Val	His	Gly	Ser	Gly	Pro	Tyr
170	225					230					235				240	
171	Ser	Ala	Pro	Ser	Pro	Ala	Tyr	Ser	Ser	Ser	Ser	Leu	Tyr	Ala	Pro	Asp
172					245						250				255	
173	Ala	Val	Ala	Ser	Ser	Gly	Pro	Ile	Ile	Ser	Asp	Ile	Thr	Glu	Leu	Ala
174				260					265					270		
175	Pro	Ala	Ser	Pro	Met	Ala	Ser	Pro	Gly	Gly	Ser	Ile	Asp	Glu	Arg	Pro
176			275					280					285			
177	Leu	Ser	Ser	Ser	Pro	Leu	Val	Arg	Val	Lys	Glu	Glu	Pro	Pro	Ser	Pro
178		290					295					300				
179	Pro	Gln	Ser	Pro	Arg	Val	Glu	Glu	Ala	Ser	Pro	Gly	Arg	Pro	Ser	Ser
180	305					310					315				320	
181	Val	Asp	Thr	Leu	Leu	Ser	Pro	Thr	Ala	Leu	Ile	Asp	Ser	Ile	Leu	Arg
182					325						330				335	
183	Glu	Ser	Glu	Pro	Ala	Pro	Ala	Ser	Val	Thr	Ala	Leu	Thr	Asp	Ala	Arg
184				340					345					350		
185	Gly	His	Thr	Asp	Thr	Glu	Gly	Arg	Pro	Pro	Ser	Pro	Pro	Pro	Thr	Ser
186			355					360					365			
187	Thr	Pro	Glu	Lys	Cys	Leu	Ser	Val	Ala	Cys	Leu	Asp	Lys	Asn	Glu	Leu
188		370					375</									

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,420

DATE: 04/19/2002

TIME: 16:05:07

Input Set : N:\Crf3\RULE60\10046420.raw

Output Set: N:\CRF3\04192002\J046420.raw

```

197      Pro Arg Pro Pro Glu Ala Glu Asn Ser Ser Pro Asp Ser Gly Lys Gln
198          450                      455                      460
199      Leu Val His Tyr Thr Ala Gln Pro Leu Phe Leu Leu Asp Pro Gly Ser
200          465                      470                      475                      480
201      Val Asp Thr Gly Ser Asn Asp Leu Pro Val Leu Phe Glu Leu Gly Glu
202          485                      490                      495
203      Gly Ser Tyr Phe Ser Glu Gly Asp Gly Phe Ala Glu Asp Pro Thr Ile
204          500                      505                      510
205      Ser Leu Leu Thr Gly Ser Glu Pro Pro Lys Ala Lys Asp Pro Thr Val
206          515                      520                      525
207      Ser
209 <210> SEQ ID NO: 3
210 <211> LENGTH: 25
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
213 <220> FEATURE:
214 <223> OTHER INFORMATION: A heat shock element. A nucleic acid molecule
215      that binds with a heat shock transcription factor
216      to stimulate gene expression
217 <220> FEATURE:
218 <221> NAME/KEY: misc_feature
219 <222> LOCATION: (1)...(25)
220 <223> OTHER INFORMATION: n = A,T,C or G
221 <400> SEQUENCE: 3
W--> 222      ngaannttcn nnnnnnttcn ngaan

```

25

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 04/19/2002
PATENT APPLICATION: US/10/046,420 TIME: 16:05:08

Input Set : N:\Crf3\RULE60\10046420.raw
Output Set: N:\CRF3\04192002\J046420.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 1,5,6,10,11,12,13,14,15,16,20,21,25

VERIFICATION SUMMARY

DATE: 04/19/2002

PATENT APPLICATION: US/10/046,420

TIME: 16:05:08

Input Set : N:\Crf3\RULE60\10046420.raw

Output Set: N:\CRF3\04192002\J046420.raw

L:222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0